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Loading Mexican cotton for export.

Mexico Shifts From Cotton to Food Crops

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This week's cover:

Mexican cotton being loaded for export at the port of Guaymas. An unusually small crop last year almost brought an end to the country's previously sizable cotton exports, according to article beginning this page.

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Mexican Farmers Shift From Cotton to Food Crops

By ROBERT W. JOHNSON
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MEXICO, which has ranked among the world's top five cotton exporters during most of the past 25 years, produced only a little more than enough cotton to satisfy domestic needs in 1975. Larger plantings are expected in 1976, but production is still likely to be only about half the 1960-69 average.

This drastic change is the result of a shift in stress from cotton to food crops. Concerned over the increasing food needs of Mexico's rapidly expanding population, the Government is providing favorable support prices for food crops and no support prices for cotton. In addition, many farmers prefer producing grains that can be harvested mechanically over administering the large work forces used to pick cotton.

Mexican cotton farmers have shown, however, that they are responsive to price-cost relationships, and in the future, if the profitability of cotton relative to other crops should improve sufficiently, Mexico could again become a large exporter of raw cotton. Also, the Government, if it becomes sufficiently concerned about cotton production, can influence it through allocations of irrigation water and credit. These are powerful tools for influencing farmers' plantings since virtually all cotton in Mexico is irrigated and since both irrigation water and credit are supplied at what are, in effect, subsidized prices.

So long as the needs of the domestic mills for the desirable grades are met (currently about 750,000 bales per year), many feel that Government policy will be to allow farmers to produce what they wish. But this will be within the framework of minimum prices for food crops and the market price for cotton, as determined by supply and demand.

Over 70 percent of Mexico's cotton is produced by "ejidatario" farmers, who have a lifetime right to farm about 10 to 20 hectares (1 hectare=2.471 acres) of Government-owned, communal land. They also have the right to pass this on to a family member, with the Government continuing to retain title to the farmland.

The remaining 30 percent of the cotton is produced by small landowners or by colono farmers. Small landowners, under current laws, own no more than 100 hectares of irrigated land—and usually much less. However, some have put together larger operations by renting or family ownership. Colonos are farmers who own land, wells for irrigation, and machinery in common and who produce and market in common.

The Government provides quite high support prices for food crops because of its concern over large food imports. Mexico, during the past 3 years, has imported 15 percent of the corn that it has consumed, 25 percent of the wheat, and 45 percent of the soybeans. The Government provided 1975 minimum prices for these crops of $3.56 (raised to $3.87 Sept. 24, 1975), $3.81, and $7.62 per bushel, respectively. By comparison, the United States provided no support for soybeans and loan (and target) rates of $1.10 ($1.38) per bushel for corn and $1.37 ($2.05) per bushel for wheat.

"... if the profitability of cotton relative to other crops should improve sufficiently, Mexico could again become a large exporter of raw cotton."

The Government provides irrigation water from reservoirs at subsidized rates. For example, the 1975 cost of irrigation water for cotton at Torreon was $10 per acre for reservoir water and about $65 per acre for privately owned well water. The cost for reservoir water has increased to $15 per acre in 1976, but this is still considerably less

than that for well water, which also will probably go up.

Credit is provided by the Government at negative or subsidized real interest rates. The cost-of-living increase was 24 percent in 1974 and 15 percent in 1975. This means that just to maintain the purchasing power of the money borrowed, a borrower after 12 months would have had to pay back the original value of the loan plus 24 percent in 1974 and 15 percent in 1975. The Mexican Government, however, lends money for crop production at an annual rate of about 12 percent.

The Government in dealing with cotton has two policy considerations. On the one hand, it wants employment for agricultural workers plus foreign exchange earnings from cotton exports. On the other hand, it wants to provide plentiful supplies of grains, most of which are harvested mechanically.

In the future, providing food for the population will probably continue as the overriding consideration. But this need might be met by exporting cotton and using the foreign exchange earnings to import food should the Government decide that its comparative advantage lies in cotton.

Much of the urgency of making such a decision will be removed if Mexican petroleum reserves are found to be sufficient to allow large-scale petroleum exports. Mexico became self-sufficient in petroleum in 1974 and began exporting in 1975. However, the size of Mexican petroleum reserves and, consequently, the outlook for exports remain unknown.

Exceptions to Mexico's policy of giving no support price for cotton were made in 1973, when world prices were rising, and in 1974, when they dropped sharply.

In 1973, many farmers had contracted their crop at prices ranging from 375 to 550 pesos per quintal (30 to 44 U.S. cents per lb). As world prices began to rise above these levels, producers began to deliver bales that were lighter than those called for in the contracts.

The Government at this point took two steps: It required buyers to accept bales weighing less than the standard 230 kilogram gross weight, plus or minus 10 percent specified in the contracts, and it required buyers to pay and producers to accept 800 pesos per quintal (64 U.S. cents per lb) for cotton not contracted for.

In 1974, when world prices dropped sharply, the Government cotton com-

Top to bottom: Picking cotton in Mexicali; ginning hand-picked cotton; baling it; and cotton ready for export from Guaymas. Mexican production of cotton, once a major export crop, fell sharply last year. Some recovery is seen for 1976, but cotton continues to take second place to food crops in Mexico.

pany, Algodonera Comercial Mexicana, (ACM), purchased about 1 million bales, or 45 percent of the crop. This cotton was purchased for an average price of about 40 U.S. cents per pound and sold later at 35 to 47 cents. About one-half went for domestic use and half for export.

Prices continued to recover into 1975, and the crop harvested that year was so reduced that domestic, rather than export, demand began to be the major factor influencing prices. Consequently, prices at harvesttime were about 3 U.S. cents per pound above the level that would have made Mexican cotton competitive in world markets.

The Government supported the price of cottonseed in 1974 at 2,200 pesos per metric ton (8 U.S. cents per lb). Normally, however, there is no support, and during the 1975 season the demand for oil was so strong that the market price for cottonseed was running from 2,200 pesos ($176) to 2,500 ($200) per metric ton.

Because they receive financing for cotton production throughout the year, producers are not under as much pressure to sell their crop at harvesttime as they would be if they did not receive financing. They do have to pay interest until the loans are repaid, but the interest, at about 12 percent per year, is under the commercial rate—and especially low considering the high inflation rate. Storage costs are relatively small, since cotton can be stored outside in major producing areas. Storage at Torreon, for example costs only about 16 U.S. cents per bale per month, or $1.92 per year.

Some producers' "associations" and "credit unions" are well financed and are in a good position to hold cotton until they feel the time is appropriate to sell. These associations and credit unions finance and market the crops for members, and at times also perform other services.

ACM and other dealers generally buy as they have a market for the cotton. However, in 1974 ACM bought about 1 million bales, or 45 percent of the crop, to support the price.

The low prices discouraged plantings, and the 1975 crop was little more than sufficient to cover domestic needs. Dealers at the time of harvest (September-November) were paying about 50 cents per pound of lint to producers (net weight). Freight, taxes, and other costs of getting the cotton from the gin to the mill or to the port ran about 3 cents per pound. Ocean freight from Mexico to Japan or to Western Europe ran about 5 cents per pound, bringing to 58 cents the c.i.f. value of Mexican cotton. This was about 3 cents per pound above Mideastern and other competitive offers.

Since the 1975 harvest period, world prices have risen considerably, making Mexican cotton competitive again and assuring an export market for much of the remaining surplus from the 1974 crop. Exports are expected to reach at least 600,000 bales.

Cost of production data, based on an estimate of costs for 45,000 hectares of ejidatario land and 3,000 hectares of land farmed by small landowners in Laguna, indicated cotton's net return per hectare of reservoir irrigated land in 1975 was 2,725 pesos ($88 per acre). This compared with 4,975 pesos for dry beans, 3,300 for corn, and 2,875 for sorghum. On a per-pound basis, cotton returned 50 U.S. cents in 1975, while costs were 39 cents, leaving a net return of 11 cents.

"Exceptions to Mexico's policy of giving no support price for cotton were made in 1973, when world prices were rising, and in 1974, when they dropped sharply."

However, cost of picking, a considerable expense for larger farmers who must hire labor, is an important savings for smaller farmers who furnish their own labor. Also, since the Government finances the picking, these smaller farmers have the money before the crop is sold. Thus, the cost of picking, estimated at 1,250 pesos per hectare, can be deducted from gross income as an expense item and then added back to the net income for farmers who furnish their own picking labor. When this is done, the net return increases from 2,725 pesos per hectare to 3,975 ($127 per acre).

This makes cotton compare more favorably with the alternatives and will help to keep Mexico's small farmers, especially the ejidatario farmers, in the cotton production business for some time to come.

Mexican cotton consumption has remained relatively stable at about 700,000 to 800,000 bales since the mid-1960's. Accounting for the stability, however, are increasing textile exports, which have offset declining domestic use. Exports of cotton textiles in 1968 were 6,991 metric tons or 35,000 bales, raw-cotton equivalent. This was equal to 5 percent of total domestic textile production. By 1974, textile exports had reached 39,468 tons, or 200,000 bales, raw-cotton equivalent, to equal 28 percent of total textile production.

At the same time, apparent domestic consumption of cotton textiles declined from 149,191 tons in 1968, or 70 percent of total domestic fiber consumption, to 101,988 tons in 1974, 38 percent of the total. Noncellulosic manmade fiber consumption accounted for an estimated 47 percent of domestic fiber consumption in 1974, and cellulosic fiber consumption accounted for another 12 percent.

Manmades have gained this large share of Mexico's textile market despite their higher cost in relation to cotton. Polyester staple was selling in mid-1975 for $2.10 per kilogram, or 95 cents per pound, nearly double the U.S. price for polyester staple. This gain in utilization of manmade fiber, in spite of the high price, is attributed to its "easy care" characteristics and to the fact that the cost of the fiber makes up a relatively small part of the total cost of the garment. As a result of the high price, however, Mexico exports little manmade fiber textiles either in pure or blended form.

Cotton cloth accounted for 62 percent of the value of Mexico's cotton product exports in 1973, and cotton yarn, for most of the balance. The United States was the most important market for both these products, accounting for 44 percent of the value of cloth and 29 percent of the value of yarn exports that year. Other important markets were Japan, Switzerland, Canada, Belgium, and Spain.

Boding well for future Mexican textile exports to the United States was the May 1975 signing of a bilateral agreement on trade in cotton, wool, and manmade fiber textiles. This replaced the June 21, 1971, agreement on cotton textiles only. The new agreement—which covers the 3-year period May 1, 1975, to May 1, 1978—provides for a 7-percent annual growth rate in Mexico's exports of these products to the United States.

Canadian Fruit Crops Large in 1975

CANADIANS in 1975 harvested significantly larger crops of apples, pears, peaches, grapes, and blueberries than a year earlier. The volume increases ranged from a 6 percent gain for the pear crop to a substantial 42 percent for blueberries.

The apple crop is estimated at 446,750 metric tons, 10 percent ahead of the 1974 level. Marketing of this larger output poses problems and apple imports from the United States are at a lower level as a result. Processing, which has taken about 37 percent of the harvests in recent years, offered depressed prices because carryover stocks from the previous year were high.

In Nova Scotia and New Brunswick, where processing is particularly important, Government agencies will purchase surplus apples to be processed for later sales.

Exports of fresh apples have been declining in recent years, and were at a low of 35,650 tons in 1974/75. Much of this decline is attributed to reduced shipments to the United States.

In contrast, imports of U.S. apples have been increasing (64,860 tons in 1974/75), a strong 58 percent ahead of the previous year's level. Consequently, Canadian growers are aggressively seeking Government assistance. Despite this situation, at present there is no prospect of import controls.

The 1975 pear harvest was 6 percent greater than that of a year ago, reaching an estimated 40,140 tons. Fruit sizes are generally smaller as a result of unfavorable weather and rust mite injury in some areas.

Because of this larger crop, U.S. import prospects for 1975/76 are expected to be down about 8 percent from the year-ago level of 20,860 tons. Of the 1975 harvest, the quantity for processing is expected to be greater than the 1974 level of 17,000 tons.

In Ontario, the major pear-producing region, growers are faced with a surplus of Kiefer pears and the Government has announced a plan to purchase about 450 tons of these pears to be canned.

Ideal weather permitted an exceptional 1975 peach crop of 61,330 tons, greater by 20 percent than 1974's. Of this harvest, more than 14,500 tons are expected to be processed, compared with 12,250 tons of the 1974 crop.

Ontario growers did not require Government assistance as reported earlier because the harvest in this area was not as large as predicted. Peach imports, supplied mainly by the United States, have been relatively stable at 13,700 tons in 1974/75.

Canada's grape production in 1975 is estimated at 78,600 tons, exceeding 1974's crop by 9 percent. Despite this large harvest, U.S. shipments of grapes are expected to remain near the 1974 level of 117,240 tons. A large portion of these imports is utilized in wine making, as Canada has an insufficient number of California-type hybrid varieties to meet demand (*Foreign Agriculture*, January 12, 1976).

The 1975 blueberry crop is estimated at 12,250 tons, up from 1974's poor harvest by 42 percent. A shift in markets for frozen blueberries is occurring: In 1972/73, virtually all these exports were shipped to the United States, but in 1974/75 only 28 percent of frozen blueberry exports were shipped to the United States.

The remaining quantity was shipped mainly to West Germany and the Netherlands. This trend of increased exports to Western Europe is likely to continue. Virtually all from the United States, Canada's 1974/75 imports of fresh cherries, plums, and strawberries registered volumes of 6,730, 18,950, and 14,180 tons, respectively, ahead 22, 47, and 14 percent of the year-earlier quantities.

—R. Y. UYESHIRO, FAS

Left: Harvesting apples, using mechanized equipment, in Canada. Below: Picking grapes in Ontario. Canada's 1975 harvests of apples, pears, peaches, grapes, and blueberries were significantly larger than 1974's.

AUSTRALIA ANTICIPATES MARKET IMPROVEMENTS

SOMEWHAT BETTER times are in prospect for Australian farmers in 1976,[1] but their returns will still be below those of the record income year of 1974.

Gross value of rural production in 1976 is estimated at $A6 billion, up some 4.5 percent from that of 1975 and substantially above estimates made in November of last year. (The current exchange rate is $A1=US$1.25). Higher output of cereal crops and a generally improved export market for livestock products are the main factors behind the upward revision.

Although net farm returns are expected to increase by 3.5 percent to $A1.64 billion, in 1976's real terms they will be the lowest since 1971, and well below the average level of the past decade.

Considerable differences continue to exist in marketing prospects for individual commodities. The grain market continues to be strong and beef and wool markets show definite signs of recovery. However, large world supplies of livestock products, combined with slow economic recovery in the major importing countries, will likely limit any substantial price rise this fiscal year for these income-sensitive commodities.

Australian sugar producers are protected, at least to some extent, from the recent slump in world sugar prices by long-term contracts, but returns still will be down. In the longer view, inflating costs will continue to exert pressure on net returns and it could take another 2 years before returns to farmers are on a reasonably sound basis.

The total volume of Australia's agricultural output increased in 1975 by some 6 percent, largely because of a rise in livestock production. Wool output and livestock slaughtering both rose substantially between 1974 and 1975, but crop output remained virtually steady. Overall, the total seeded area changed little, but there were some shifts within the various crop groups.

In terms of prices and earnings, 1975 was a disappointing year. Gross farm returns were down nearly 10 percent to $A5.77 billion from those of 1974, when farm returns were at a record high.

The lower income in 1975 resulted from reduced livestock product prices. In real terms, cattle prices are estimated to have slumped to a record low. The new floor support price scheme for wool probably saved that industry from disaster in 1975. By contrast, conditions were generally buoyant in the crop sector, particularly for wheat and sugar.

The gross value of wheat production in 1975—at $A1.19 billion—remained at nearly the same high level as the previous year's, reflecting a continuation of strong world prices. The value of wheat output topped that of wool production for the second year in a row. Sugar value more than doubled because of higher prices and a slightly higher volume, rising to $A466.5 million.

The gross value of livestock production in 1975 was down 25 percent from the year before to $A2.68 billion because of depressed export markets. The most seriously affected product was beef where returns were only about half those of a year earlier. Although the value of mutton and lamb production was off, returns held up better than for beef. Returns to wool producers were down 23 percent in 1975 to $A949 million.

The value of agricultural exports increased 12 percent in 1975 to $A3.94 billion, due almost entirely to a doubling in the value of crop exports to $A2.14 billion. The value of livestock exports fell by 35 percent to $A1.42 billion.

The value of wheat exports in 1975 exceeded that of both wool and meat for the first time and the value of sugar exports about tripled—going from $A223.2 million to $A644.5 million. In spite of the increase in the value of farm exports in 1975, the value of agricultural exports as a share of total exports continued to fall. In 1975, farm exports accounted for 45.4 percent of the total, compared with 50.2 percent a year before and 53.0 percent in 1973.

1975/76 production. Considerable uncertainty surrounds the future of crop production in Australia. With a continuation of good returns, efforts to expand crop output may continue, particularly if recovery in the livestock sector remains slow. Wheat prices are expected to stay high for the remainder of the 1976 season and probably the next, but other grains could face problems.

The area seeded to grain has risen to 688,000 hectares from 661,000 the previous season and total grain production is expected to increase 8 percent to 17.5 million tons. Favorable growing conditions have resulted in a strong upward revision in output estimates for this year's crop.

The wheat crop has probably benefited the most from the excellent conditions, and output is now estimated at 11.73 million tons. It earlier had been thought that dry weather would reduce production to well under 10 million tons.

Barley and oat output are also better than earlier forecasts indicated. Current estimates for barley are for a crop of 2.97 million tons, compared with 2.52 million in 1975. Oat production this year is estimated at 1.2 million tons. Rice production during the 1976 season is now estimated at 445,000 tons, compared with 387,000 tons the year before, and grain sorghum rose from 850,000 tons to 1 million tons in the same period.

Oilseed production is estimated to be down about 12 percent. However, peanut output is estimated at 34,000 tons in 1976, compared with 32,000 tons the year before, while flaxseed went from 32,000 tons to 34,000 tons in the same period.

Beef production is estimated at a record 1.72 million tons in 1976, 14 percent higher than the previous year's outturn. On a calendar year basis, production in 1976 is estimated at about 1.8 million tons. This compares with actual calendar year production of 1.64 million tons in 1975. The larger 1975/76 estimates are based on the assumption that seasonal conditions will remain normal. If drought returns, the level of slaughter would probably be higher.

Mutton and lamb production is expected to increase slightly in 1976 to 551,000 tons, but pork outturn will likely drop for the fourth consecutive year to 175,000 tons, down from 178,000 tons the previous year. Poultry meat production is also expected to fall again in 1976 to 180,000 tons from 189,000 tons a year earlier. High feed costs and low returns

[1] **Unless otherwise indicated all years are fiscal year, all tons are metric.**

are said to be responsible for the fall in both pork and poultry meat output.

The 1976 outlook for Australian wool producers is much improved because of the expected economic recovery in the major industrial countries. The Australian wool industry just went through one of the most severe textile recessions since World War II, and there are still problems facing the industry such as the huge stocks of wool now on hand in the three major exporting countries—Australia, New Zealand, and South Africa—that will likely serve to moderate the expected 1976 wool price rise.

At the end of the first half of the 1976 selling season, the Australian Wool Corporation had just a little over 1.7 million bales of wool in stock. The Corporation was forced to purchase 467,000 bales—25 percent of the total offerings—during the first half of the selling season to support the minimum floor price.

This increase was offset to some extent by sales of 346,000 bales, mostly from overseas stocks. The Corporation plans to continue to move wool to points overseas to be able to meet trade demands on short notice.

Wool production in Australia is expected to remain about unchanged in 1976 at 790,000 tons. Sheep numbers increased nearly 4 percent to 151.7 million head in March 1975, but this increase will be offset by a smaller clip.

Prospects for the Australian fruit industry are not bright. The sales outlook for apples and pears appears good in the Middle East and Asia, but access to the EC market is still a major problem. Soaring production and ocean freight costs are expected to be major long-range deterrents for both fresh and processed fruit exports from Australia, and the industry must come to grip with these problems in the near future.

THE INDUSTRY may, in fact, be forced eventually to cut production back to where it will just meet domestic market needs. The industry's immediate future hinges largely on Government action in possibly restructuring the industry and passing legislation to finance the fruit industry's support activities. So far, Government aid to the industry has done little to solve its problems and fruit prices remain depressed.

Production of major fruit categories in 1976, in thousands of tons, with 1975 output in parentheses, was: Citrus fruits, 390 (418); apples, 310 (370); pears, 125 (140); apricots, 25 (21); bananas, 118 (122); pineapples, 101 (116); and grapes, 840 (752).

The outlook for the cotton industry is somewhat improved in 1976 as a result of recovery in the world textile industry. The area planted to cotton is expected to decline, but total production could increase slightly as a result of improved yields. However, the present estimate is for a crop of about 30,000 tons, the same as last year's.

Tobacco output is expected to remain stable at 15,500 tons. tons.

The latest estimate for the 1975/76 sugarcane harvest indicates a raw sugar outturn of 2.86 million tons. This is slightly below the 1974 crop, and is well below the output of approximately 3 million tons that had been forecast before wet weather disrupted the last stages of the cane crushing season. Some 800,000 tons of cane will be left standing in the fields and might be harvested next year if the sugar content is high enough to make it worthwhile.

One of the clouds casting a shadow on Australia's 1976 dairy year is the huge stockpile of skim milk powder and other dairy products in major world producing countries. Total milk production in Australia is expected to be down slightly to 6.4 billion liters from 6.5 billion a year earlier, but export supplies will be up.

Australia currently has a stockpile of about 100,000 tons of skim milk powder and it will be some time before the surplus is cut and manufactured dairy product prices return to a favorable level.

Butter production is expected to drop by about 10 percent to 150,000 tons while cheese output is expected to be up 13 percent to 112,000 tons. This production shift is largely because cheese returns are more favorable than those for butter and skim milk powder.

Australia's exports. This year's 11.7-million-ton wheat crop could provide exports of 9 million tons. If prices are too unfavorable the Australian Wheat Board may decide to carry over a sizable quantity into the next marketing year.

Wheat exports made an important contribution to Australia's foreign exchange earnings in 1975. For the first time, wheat sales exceeded both wool and meat as the top export earner. The value of wheat exports was $A1.09 billion, nearly double that of the year before. Export returns in 1976 will be lower and are now estimated at $A995 million. This is slightly below the projected export value of wool, but still well ahead of the estimated earning from meat sales.

Australia exported 712,905 tons of meat in calendar 1975. This compares with total meat exports of 453,963 tons the year before. The largest share of the export total was beef, which accounted for 72 percent. Beef exports in fiscal 1975 are estimated at 535,000 tons (product weight), compared with 417,000 tons in 1973/74. On a calendar year basis, 1976 beef exports are estimated at about 600,000 tons, compared with actual 1975 exports of 513,751 tons.

The United States was Australia's major outlet for beef in fiscal 1975, taking 295,564 tons, or nearly 60 percent. Japan was next, with purchases of 35,602 tons, and the USSR was third, with imports of 35,147 tons. In all, Japan imported 116,131 tons of Australian meat, including 68,732 tons of mutton.

The highlight of Australia's meat export performance last year was the high level of sales to the Middle East. This market took 20,845 tons of beef, 18,559 tons of mutton, and 24,295 tons of lamb. In addition, the Middle East imported an estimated 1.5 million live sheep from Australia. The strength of the Middle East market last year kept the value of Australian meat exports from falling to greatly depressed levels.

Australia was also successful in expanding meat sales to a number of minor markets in 1975, and—although somewhat higher prices could limit sales to many of these markets in 1976—Australia still expects to sell sizable amounts of meat to these outlets this year.

Total wool exports in 1976 are expected to be 777,000 tons, 32 percent greater than the previous year's. Export value of wool is estimated at $A1.2 billion, up nearly 45 percent.

—Based on report by HARLAN J. DIRKS
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Strong Future Growth Seen For Thai Sugar Industry

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Above: Workers cutting sugarcane in Thailand. Right: Truckloads of sugarcane arriving at a Thai sugar mill. Area planted to sugar in Thailand during 1974/75 was about 775,000 acres—nearly double the area planted in 1960/61.

SUGAR production in Thailand has gone steadily upward in the past 15 years and the country now produces enough sugar to meet its own needs, with a sizable surplus for export. Moving in this period from net importer to net exporter, Thailand's sugar exports are expected to rise markedly in the next 5 years or so.

Thailand is climatically suited to large-scale sugar production, but the country did not reach self-sufficiency until about 1970. By 1971, Thailand began to export large amounts of the sweet stuff and 4 years later sugar was one of Thailand's top foreign exchange earners.

The structure of Thailand's sugar industry is unique in several ways. It has no large plantations. Most sugar is grown by small farmers on plots of 2-10 acres. In many sugarcane producing areas the crop depends entirely on rainfall in contrast to other countries where plantation-type operations are heavily irrigated.

Also in Thailand the sugar mills are located close together but sometimes at a distance from the farms. This, too, contrasts with the industry structure in other countries, where the mills are generally centralized on the larger sugar plantations.

Thai cane is sometimes transported long distances to the mills. This often causes deterioration in its quality and a drop in the amount of recoverable sugar, particularly late in the season when the cane goes for as many as 3 days or more between cutting and crushing.

In 1971, sugar was Thailand's 10th most important agricultural export. By 1972, the world sugar market had changed for the better and the future of Thai sugar exports brightened. In that year, raw sugar exports rose to fifth place as an agricultural export and earned more than $60 million in foreign exchange.

Even without regard to sugar's importance as a foreign exchange earner, its production is crucial in that it provides 600,000 farm families with larger incomes. This often enables them to boost their standards of living to levels more nearly equal to those of workers in other occupations.

The Thai Government controls the sugar industry in most of its operations. It regulates production and sales and by means of a set-aside system insures adequate sugar for domestic consump-

tion. It also allocates the volume of sugar available for export.

During the early development of the sugar industry, the Government was faced with many problems connected with supplying inexpensive sugar to domestic consumers. It had to establish a base price to avoid fluctuations on the local market and set regulations to prevent importers from dumping sugar on the domestic market.

Prior to 1966 the Government subsidized sugar exporters because the cost of producing sugar in Thailand was greater than the world market price. This subsidy program was ended October 1, 1966. However, during the 1960-66 period, there were large fluctuations in the supply of domestic sugar because of crop failures caused by drought. When sugar output was low, the Government cut the country's export allocation and raised it in good times. This position gave Thailand the reputation of being an unreliable supplier.

During the sixties, the Thai sugar industry itself was plagued by other problems. It seemed that when cane farmers produced a good crop, exporters were unable to sell enough sugar and when the crop was small sales were limited.

In an effort to eliminate some of its export marketing problems Thailand became a signatory of the International Sugar Agreement (ISA) on August 29, 1969. Thailand received a 36,000-ton ISA sugar export quota. (All tons are metric.) The United States also granted a 16,000-ton quota, for an export total of 52,000 tons.

However, Thailand's problems were compounded by the steady uptrend of its sugar production. Thailand came to believe that ISA membership could not provide solutions to the problems of its sugar industry—particularly in its search for new markets—and on October 28, 1971, terminated its ISA membership.

AN UPWARD movement in sugar prices after 1972 helped Thailand survive the crisis and within 2-3 years sugar exports became a substantially more important item in its economy.

Sugar was selling on an exporters' market during those years and importing nations began to give more serious consideration to Thailand as a sugar source. It was able to sign several long-term contracts at the time and to sell increasing quantities of sugar on a short-term basis. Both the quantity and value of Thailand's sugar exports rose substantially from 1972 to 1974.

By coincidence, Thailand had record production and large raw sugar supplies available for export in 1974 at the time the world demand for sugar had grown stronger and sugar prices in the world market had soared. This favorable situation enabled the Thai sugar industry to become one of the country's principal exporters.

In 1974 and 1975, Thailand's earnings of foreign exchange from sugar exports will have reached record levels. The $124-million value increase in sugar exports in 1974 about offset the rise in the country's oil import bill, and helped Thailand's balance of payments firmly to seat itself in the "plus" column. Thailand was also one of the few developing countries able to increase its gold and foreign exchange earnings in the early and mid-seventies.

In 1971, Thai sugar exports—at 174,572 tons, valued at $19.1 million—were 240 percent greater in volume and 344 percent greater in value than in the previous year. By 1974, sugar exports had risen to 524,713 tons, worth $181.2 million. These represent increases of 91 percent in volume and 216 percent in value from the previous year. In 1975, Thai raw sugar exports the first 5 months of the year were 195,664 tons, valued at $127 million, compared with those of the same period the previous year, of 271,000 tons and $97 million.

During the 1975 period, principal markets were Malaysia, 25,373 tons worth $20.1 million; Sri Lanka, 4,982 tons, $3.8 million; Japan, 106,574 tons, $72.3 million; Iran, 34,756 tons, $17.7 million; Syria, 13,195 tons, $7.3 million; and the United States, 10,784 tons, $5.8 million.

Thailand expects officially to export 610,000 tons of raw sugar in 1975. An additional large volume is smuggled out of the country each year so that the amount of sugar leaving the country probably will exceed 650,000 tons.

Of the expected official exports of 610,000 tons, 360,000 were to be shipped under existing long-term contracts and to complete delivery under other contracts signed the previous year. This left about 250,000 tons of sugar uncommitted.

To find customers, the Ministry of Industry proposed that the remaining sugar be sold through bids to be taken in May 1975 (for 100,000 tons) and in July, September, and November 1975 for 40,000 tons each month, with the remaining 30,000 tons to be retained as a reserve to keep the domestic price of sugar at a reasonable level.

The plan proved to be successful and 76,400 tons were sold in the first three sales.

Thailand has a long-term sales contract with four Japanese companies for the sale of 1,210,000 tons of sugar over the 5-year period beginning in 1975. Under its terms, the Thai Sugar Trading Corporation (TSTC) is to supply 60,000 tons of raw sugar in 1975, 250,000 tons in 1976, and 300,000 tons per year from 1977 through 1979. Export value is to be based on the sugar price at the London Sugar Market at the time of shipment.

UNDER a second long-term sales contract, the Thailand Sugar Corporation was to provide 300,000 tons of raw sugar in 1975 to two other importing companies. Each company was to get 150,000 tons, with the option of inincreasing the volume by 5 percent.

Since the beginning of 1974, the international price of sugar has increased substantially, causing a considerable difference between the Thai price and that on the world market. The wholesale price of sugar in the Bangkok market as of August, 1975, was about $200 per ton, while the export price averaged $400-$500.

On June 18, 1974, the Government began to collect a sugar export premium —in reality an export tax—to sop up some of the excessive profits allegedly being made by sugar producers. By the end of December the Government had collected $24 million through the sugar export premium. In the period January 1-June 30, 1975, the premium collection amounted to $35 million.

For 1975, the Royal Thai Government had allocated $25 million from sugar-export-premium funds to the cane farmers assistance program. This would provide cane farmers with subsidized fertilizer and sugarcane support programs. The Government has also declared it would use the fund for more intensive research efforts to boost cane production and step up market development programs.

Many sugar producers are protesting the Government's plans to spend the monies from the sugar export premium to advance the welfare of the farmers instead of the industry's.

For instance Thai sugar mills are lo-

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Food Rationing—Hard Fact Of Life in Bangladesh

By CARL O. WINBERG
U.S. Agricultural Attaché
Dacca

IN THE face of a population that is outpacing food production—plus overpowering economic and social problems—Bangladesh must rely heavily on food aid and relief shipments from the United States and other countries. These products, largely foodgrains, are funneled through the Government's extensive distribution network to millions of Bangladesh consumers—for many, the main part of a meager diet.

Government-controlled food distribution thus is of high economic and political importance in Bangladesh. And, with the odds favoring population growth (now at about 3 percent annually) over food production growth, little change in this importance is seen.

The food distribution program dates from the days when Bangladesh was part of Pakistan—and has since become more entrenched, enlarged, and less likely to contract. Foodgrain self-sufficiency is an often-stated goal, as is the elimination of all food imports, but the trend is toward expanding Government distribution of heavily subsidized or "free" grain, obtained largely from imports.

Similar distribution systems are used in India and Pakistan. The other countries, however, have not been nearly so dependent on foreign foodgrains, or on government distribution of grains. When near self-sufficiency, these countries have been known to offer foodgrains at lower prices than offered by Government ration shops.

In Bangladesh, on the other hand, subsidized wheat and rice are usually much less expensive than rice sold on the open market. And these subsidized prices are very difficult to increase since salaries are often tied to them. (A February 7, 1976 increased in the price of rations has reportedly caused much unrest among low-income groups.)

The Bangladesh food distribution program is broken down into several types, based on recipient's ability to pay for the foodgrain, seasonal shortages, or abnormal market conditions.

Statutory rationing is the main avenue for distribution of subsidized grains in the major urban areas of Dacca, Naranyanganj, Chittagong, Khulna, and Rahshahi. The first four cities, encompassing some 4 million full-time rationees, have received rationed foodgrains since Bangladesh was created in 1971. Rahshahi was added to the list, in 1975, despite Government intentions earlier to reduce the number of areas subject to statutory rationing.

Under the system, foodgrains are sold to ration cardholders at fixed prices. This involves about 45,000 tons a month of Government-stock grain at a weekly quota of 3 seers (or 6.15 lb) per adult —usually half wheat and half rice. Prices amounted to about 5½ cents per pound of rice and 4½ cents per pound of wheat before the February increase.

In 1974, when world foodgrain prices were soaring, lower priced, wheat became a disproportionate part of the ration, but in the past year the rice component has risen, owing to the availability of U.S. rice imported under Title I of Public Law 480, plus the country's bumper 1975/76 rice crop. (Wheat supplied through this system is a coarse ground product called *atta*, produced by Government flour mills.)

In addition, the ration system provides subsidized foodgrains during periods of short supplies to areas outside the statutory ration areas. At its peak, usually in September-October, this system may feed more than 16 million rationees.

The program works like this: The Controller of Food in each district of Bangladesh allocates foodgrains, based on seasonal requirements, to the Food Department offices in district and subdivisional headquarters. These offices distribute the foodgrains to the union councils and municipalities, who turn the foodgrains over to the fair price shops (ration shops) for sale to rationees.

The rationees are classified by the union committee. Salaried employees are classified according to gross income, and all others, according to their Union Council tax (which is based upon ability to pay). Residents with gross incomes of less than Tk50 per month (US$1= Tk14.5) or in the "nontax" group are in category "A." Category "B" is composed of those with monthly incomes between Tk50-150, or a union tax of up to Tk3 per year. Those in category "E" have monthly incomes between Tk50 and Tk200, or a yearly tax of up to Tk 5.

All other residents with monthly incomes over Tk200 or who pay more than Tk5 per year union tax are classified in category "D."

Foodgrains are distributed on a priority basis, with first call given to the lowest income categories. During emergencies arising from weather, disruption of communications, or other difficulties, fair price shops are authorized to sell to all residents in their areas.

FOODGRAINS are also distributed as "gratuitous relief" (free distribution) for victims of natural disasters and, more recently, for those without purchasing power. All told, donations under the gratuitous relief program usually exceed 10 percent of annual Government foodgrain distribution.

Most of these foodgrains are usually imported, either commercially or concessionally. The United States is the main supplier, with Canada, Australia, the European Community, and others shipping much smaller quantities. In fiscal 1975, for instance, the United States arranged to ship 850,000 metric tons of foodgrains—550,000 of wheat and 300,000 of milled, bagged rice—under Title I, P.L. 480 programs.

To meet requirements of its extensive rationing system, the Government must have large quantities of these imported foodgrains on hand for continuing distribution. The arrival of huge vessels, such as the 125,000-ton ship that recently brought wheat from Canada, helps fulfill these needs, as does an extensive system of silo and warehouse storage in the port areas—a distribution system often referred to as "ship to mouth" feeding.

All of these imported grains are handled by the Government, which at the height of the modified ration system (September-November) employs every

means of transportation available to move the grain to the people.

After receipt at the country's two harbors—Chittagong and Khulna—the foodgrains are either stored in grain silos, which currently have a capacity of about 200,000 metric tons, or at the docks and are then moved by rail, boat, or truck to central storage depots. There are 425 of these depots, with a total capacity of 353,277 tons.

The foodgrains are then moved to local storage depots, which number 1,048 and have a combined capacity of 460,348 tons. The Government owns 778 of the depots, and private concerns, 270. These facilities are usually located alongside railway lines, waterways, or other convenient locations so that foodgrains can be distributed to the fair price shops.

The Government also procures some domestically produced foodgrains, mainly rice. In average years, this amounts to only about 100,000 tons, milled-rice equivalent, a year and is procured over widely scattered areas. (This year's bumper harvest will allow procurement to exceed that level.) The rice is usually procured as wet paddy and must be dried, stored, consolidated, milled, (unless distributed as paddy) and then shipped. But while a useful supplement to the imported grain, this domestic rice can not meet the country's ration requirements.

Unfortunately for Bangladesh, the country's independence came just before the worldwide spiral in grain prices, with the result that prices of commercially imported grains were more than the retail market could cover, necessitating greatly subsidized prices. But even at sharply reduced world prices, the landed cost would be above the ability of the average rationee to purchase foodgrains without a subsidy. In fact, the low, subsidized prices of foodgrains have generally been in lieu of salary increases, with salaries tied to the issuance of subsidized foodgrains. The Government has not felt that it can afford, politically, to remove the subsidy or stop the ration.

Potential to increase output definitely exists, but any substantial gain would require concerted efforts, a large capital outlay, and increased production incentives. This is especially true since Bangladesh has relatively small areas of new land to bring into cultivation and must depend on more intensive cultivation for any increases achieved.

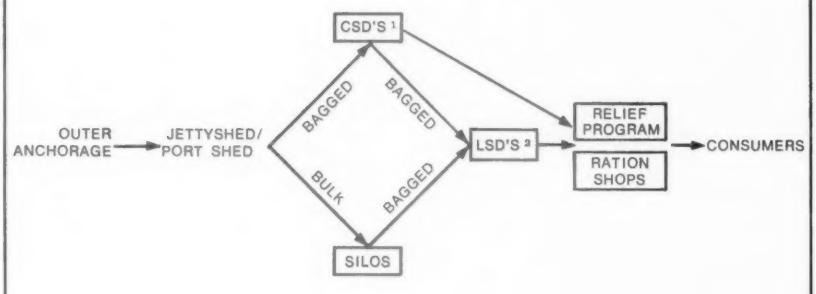
In exceptionally good crop years, such as 1975/76, the country can approach self-sufficiency, but it will have difficulty maintaining this for more than 1 or 2 years in the face of its 3-percent annual population growth rate. Moreover, in years of higher domestic production, farmers retain more for their own consumption as a safety factor.

An additional problem is the illegal export of domestic rice to India and Burma. It is unlikely that imported foodgrains are smuggled since all the imported bagged rice is bought on Government account and policed from arrival to actual distribution point. And neither India nor Burma wants wheat, especially if locally produced rice is available in the open market. However, illegal traffic in Bangladesh rice is at times extensive, with some sources estimating that Bangladesh could meet current basic minimum requirements if regimented distribution were instituted and the smuggling stopped.

Finally, the Government finds it cheaper to subsidize foodgrains than to increase wages. The present ration price of rice would have to increase 400 percent to reach the current domestic market price. Based on employees spending 30-50 percent of their income for food, the needed increase in Government salaries would be far in excess of the cost of the subsidy.

As a result, Bangladesh for the foreseeable future, must depend on imported foodgrains to meet the majority of its rationing needs.

BANGLADESH: IMPORTED FOODGRAIN MOVEMENT



[1] Central Storage Depots.
[2] Local Storage Depots.

MONTHLY FOODGRAIN OFFTAKE FROM BANGLADESH GOVERNMENT STOCKS FOR FOOD DISTRIBUTION PROGRAM 1972 THROUGH JUNE 1975
[In 1,000 metric tons]

Month	Year			
	1972	1973	1974	1975
January	80	140	127	140
February	129	154	121	127
March	191	171	131	143
April	183	206	137	128
May	227	252	130	225 [1]
June	246	214	153	175 [1]
July	251	151	152	—
August	293	153	182	—
September	302	171	177	—
October	280	187	151	—
November	193	146	155	—
December	152	123	121	—
Total	2,527	2,068	1,737	938

[1] Estimated.

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Thai Sugar Growth

Continued from page 9

cated close to several rivers in sizable groups, and together produce large amounts of liquid effluent as well as air pollutants. Mill owners complain that the Government is forcing the industry to pay the full cost of pollution control instead of financing cleanup efforts from fund revenues.

But despite its difficulties, the Thai sugar industry has come a long way in the past 15 years. Planted sugar area in 1974/75 was 774,101 acres, about twice the 394,000 acres planted in 1960/61. Cane yield averaged about 13 tons per acre in 1960, but in 1974, it had risen to 19 tons per acre.

In 1975, Thailand had 40 sugar mills, just 10 more than in 1960, but the existing mills have a greater capacity than their predecessors. In 1960, the largest mills had a crushing capacity of about 6,000 tons of cane daily, however, the majority of the mills were smaller and could crush only about 200 tons daily. This resulted in such high market prices that Thailand could not compete on world markets.

Now, most of the small mills have been replaced with larger ones, and at the present time there are just two mills still operating that have a crushing capacity of only 500 tons daily. Most of the existing sugar mills have crushing capacities in excess of 3,500 tons daily, with the largest mill having a capacity of 14,000 tons per day.

Thailand's sugar industry, with no addition to its processing capacity, can produce about 1.6 million tons of raw sugar a year. Because it has this capacity already in place, and since the Government is encouraging farmers to raise more sugarcane because of sugar's importance as a prime source of foreign exchange, it is likely Thailand's sugar output will mount in the immediate future. Already area under sugar and yields have been boosted, and sugar exports could reach 800,000-900,000 tons a year by 1980, according to trade sources in this country.

Australia Holds Quarter Horse Show

Marten A. Clark, a Soledad, California, breeder and international judge of Quarter Horses, has officiated as a judge for the Australian Quarter Horse Association at the bicentennial livestock show and rodeo held at Queenbeyan (near Canberra) March 27 and 28. The highest priced Quarter Horses in world trade are shipped to Australia each year.

Clark is a member of the American Quarter Horse Association, an FAS cooperator that has played a major role in the development of U.S. exports of Quarter Horses.

U.S. exports of Quarter Horses to Australia—which totaled nearly 500 head valued at about $1.5 million in the past 6 years—have remained strong, despite Australia's economic and agricultural recession and the $6,500-per horse cost of shipping the animals via England, where a 6-month quarantine period is required. Australia is the third largest export market for U.S. Quarter Horses.

U.S. exports of Quarter Horses to Australia (based on American Quarter Horse Association data) in 1970 totaled 90 head, valued at $315,000; 1971, 77 head, valued at $269,500; 1972, 30 head, valued at $105,000; 1973, 78 head, valued at $273,000; 1974, 111 head, valued at $388,500; and 1975, 35 head, valued at $122,500. —FRED LEGE III, FAS

*U.S. GOVERNMENT PRINTING OFFICE:1976 211-407/37 1-3